

CLAIMS

1. A honeycomb structural body comprising a ceramic block made by arranging a plurality of through-holes side by side in the longitudinal direction through partition walls and sealing either one end portions of these through-holes, characterized in that the ceramic block is formed with a composite material comprising ceramic particles and amorphous silicon.

2. A honeycomb structural body according to claim 1, wherein the ceramic block is made by bonding a plurality of prismatic ceramic members each having a plurality of through-holes arranged side by side in a longitudinal direction through partition walls with sealing material layers.

3. A honeycomb structural body according to claim 1 or 2, wherein a plurality of through-holes are plugged with a plugging material at one end portion of the ceramic block and through-holes not plugged with the plugging material are plugged with a plugging material at the other end portion thereof.

4. A honeycomb structural body according to any one of claims 1-3, wherein the composite member is a porous ceramics formed by bonding ceramic particles through amorphous silicon.

5. A honeycomb structural body according to any one of claims 1-4, wherein the ceramic particle is silicon carbide.

6. A honeycomb structural body according to any one of claims 1-5, wherein the amorphous silicon has a half-width value of Si peak ($2\theta = \text{about } 28^\circ$) of in an X-ray diffraction of not less than 1.0° .